



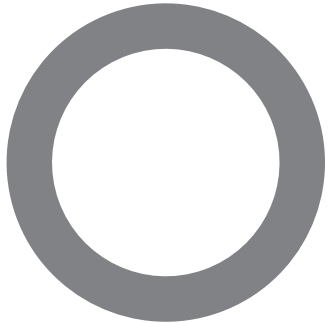
Arlington  
Public  
Schools

SOLAR POWER PURCHASE AGREEMENT

# BRIEFING PAPER

February 2017



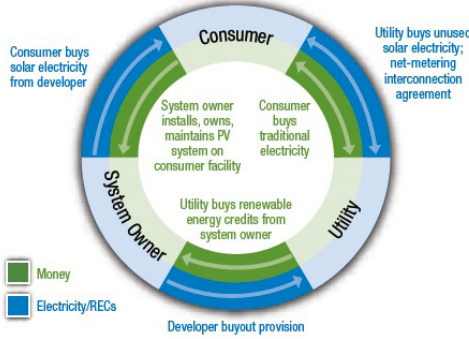


# PROGRAM PROFILE

Arlington Public Schools practices stewardship of economic and environmental resources, meeting its current needs without compromising the ability of future generations to meet their needs. Solar power purchase agreements would meet this sustainability core value by allowing APS to diversify its energy portfolio and stabilize a portion of its energy budget for the long term.

**Background**

A solar Power Purchase Agreement (PPA) is a financial agreement under which a System Owner/Developer (Developer) provides the design, permitting, installation, financing, operations, and maintenance of a solar photovoltaic (PV) system (System) located on a customer's property.<sup>1</sup> The Developer sells the solar power generated to the customer at a fixed rate for a specified term, typically twenty (20) to twenty-five (25) years. The Developer remains responsible for the operation and maintenance of the System for the duration of the agreement. The fixed rate is typically lower than the local utility's rate to the customer over the term of the agreement. The power provided by the Developer is projected to reduce substantially the need to purchase power from the local utility, resulting in savings on utility costs. The benefits to the Developer are the rates paid by the customer, sale of solar renewable energy credits (SRECs), and any tax credits and other incentives available at the state and federal level for encouragement of solar power development. These incentives contribute to the ability of the Developer to offer a lower, fixed rate to the customer. At the end of the agreement term, the customer may extend the PPA, have the Developer remove the System, or choose to purchase the System. Figure 1 shows the relationship between the Developer, the customer (consumer), and the local utility.



Source: NREL

Fig. 1

PPAs afford a municipality or state entity, the customer, the ability to build solar projects on-site at little to no upfront cost. In addition, the customer purchases solar power at a fixed rate allowing it to manage its energy costs effectively for the long term. A fixed rate is possible because there are no variables associated with solar PV energy such as fluctuations in fuel price.

A System also comes with Solar Renewable Energy Credits (SRECs). SRECs represent power generated by a solar PV array and may be bought and sold to meet state-level Renewable Portfolio Standard (RPS) requirements. In a PPA, SRECs are usually owned by the Developer. If a customer is interested in obtaining the SRECs for the System, the PPA must include the transfer of SRECs from the Developer to the customer. It is important for a customer to understand who retains the SRECs as part of the PPA

Customers entering into a solar PPA are still connected to the local utility grid and pay the local utility for any power used outside of the power generated by the System. Additionally, local utility providers may charge a customer a standby generation fee based on a customer's power needs to recover infrastructure and connection costs.

<sup>1</sup>Solar Power Purchase Agreement Fact Sheet, Solar Energy Industry Association

## Benefits to APS

Solar PPAs would give APS an opportunity to diversify its energy portfolio and hedge against rising electricity costs. PPAs also support APS' commitment to the whole child by reducing the impact of emissions (cleaner air), increasing its students' global awareness of the changing climate, providing educational opportunities in renewable energy, encouraging job opportunities in green professions, and collaborating with the County in meeting its ambitious goal of reducing carbon emissions to 3% per capita by 2050 in the Community Energy Plan. Many APS students are already engaged in learning about renewable energy and working on renewable technology including students enrolled at the Arlington Career Center, Arlington Tech and Discovery Elementary School.



Arlington Career Center Students' Solar Project

## Considerations for APS

Customers considering a solar PPA need to weigh the benefits against certain considerations when determining whether a PPA would be a good fit for their organization. These considerations focus upon the terms of the proposed Agreement and selection of the site or sites for the PV installation. A PPA is a long-term commitment between the customer and the Developer. The customer must analyze the fixed rate offered by the Developer in relation to its current electricity rate, local escalation factors over the term of the contract, and any standby charges from the local utility. Additionally, the customer must ensure that the roofs of the proposed building or buildings have sufficient structural capacity to support the solar PV array, that the roof is in good condition and that future site upgrades will not impact the solar PV array during the agreement term. Any site upgrades that will impact the PV array will require the customer to remove the solar PV array and reinstall it after the site upgrades have been completed at the Customer's cost and responsibility.

## Decision Points and Next Steps

APS faces several decision points associated with moving forward with a PPA: securing the purchasing authority to request or consider a PPA, selecting the type of contract to award, and ensuring the ability to add new sites as required.

A solar PPA would allow APS the ability to purchase renewable power at a more affordable rate. Systems installed and operated as described are a means of procurement covered by the Virginia Public-Private Education Facilities and Infrastructure Act of 2002 (PPEA), the purpose of which is to encourage private industry to propose privately funded projects for public purposes. Before APS may consider a PPA as a qualifying project under the PPEA, the School Board must adopt guidelines for compliance with the PPEA which encourage competition and guide the selection of Developers. Adoption of the guidelines by the School Board would be accomplished through an amendment to the Purchasing Resolution.

Once the amendment to the Purchasing Resolution has been adopted by the School Board, APS may then consider proposals from interested Developers using a Request for Proposal (RFP), an Invitation to Bid (ITB) or receiving an unsolicited proposal. In all cases, authorization shall be sought from the School Board prior to proceeding with a qualifying project under the PPEA. Contract terms specifying contract length, responsibility of solar PV array Developers, maintenance and insurance, site location or locations, and the ability to add new sites need to be included and carefully vetted.

Implementing a PPA at APS would require close collaboration and coordination between several departments including Finance and Facilities and Operations. The following steps would be required for successful execution of a solar PPA.

## Solar PPA Steps

- Amend Purchasing Resolution to incorporate PPEA guidelines adopted by School Board
- Identify site or sites for potential PV installation
- Survey sites for feasibility
- Issue an RFP, ITB, or receive an unsolicited proposal
- Review proposal or proposals
- Develop contract
- Process permits and rebates
- Design, procure, construct, and commission project or projects

In 2012, the APS energy manager worked with EPA's Green Power Partnership and its contractor Optony to identify possible site locations for solar PV arrays. During this collaboration, ten (10) sites were evaluated for their solar PV potential. Using this baseline, APS has a good framework for initial solar PPA site locations with a potential solar PV capacity of over 2 megawatts (MW). The image below shows the potential roof capacity for a solar PV system at Washington-Lee High School.



Washington-Lee HS Aerial Map for Solar Potential

Additionally, the new elementary school on the Thomas Jefferson Middle School campus provides another ready for a solar PV system installation.

## Summary

From fiscal year 2007 through fiscal year 2016, the gross area of APS facilities has grown by almost 11% while student enrollment has grown by 36%. In that same period, APS electricity consumption has increased by only 1%, while the utility company's rate for electricity has increased by over 35%. Rising electricity costs will continue to impact the APS budget. Having the opportunity to hedge against these increases using PPAs would provide an opportunity to practice sound fiscal management and would allow APS to diversify its energy portfolio.

